DOCUMENT RESUME

ED 195 870 CG 014 822

AUTHOR Levitz, Leonard S.: And Others
TITLE Weight Loss Five Years After Behavioral Treatment.
PUB DATE Sep 80
NOTE 18p.: Paper presented at the Annual Convention of the American Psychological Association (88th, Montreal, Quebec, Canada, September 1-5, 1980).

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Behavior Modification: *Body Weight: Eating Habits: Followup Studies: Individual Power: *Obesity: Patients: Physical Characteristics: Program Effectiveness: *Self Control: *Self Help Programs
IDENTIFIERS *Weight Maintenance

ABSTRACT

The behaviorally-based weight control program conducted by Levitz and Jordan at the University of Pennsylvania and the Institute for Behavioral Education is tailored to patient needs and includes stimulus control, cognitive restructuring, and nutrition education. The success of patients in maintaining the clinically meaningful weight losses achieved during treatment was explored by interviewing 154 former clients who had finished treatment one to five years previously. Telephone reports of present weights and actual weigh-ins were obtained. Findings indicate: (1) the average amount of weight loss maintained was 58.4%: (2) 30% of the patients maintained or continued to lose: and (3) 18% of the patients regained all of the original weight lost. No overall predictions of weight maintenance were found. (Some findings of the Manitoba Obesity Control Center on obese families, i.e., families in which two or more members are at least 20% overweight, are also reviewed.) (NRB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED195870

HARD COPY NOT AVAILABLE

WEIGHT LOSS FIVE YEARS AFTER BEHAVIORAL TREATMENT

Leonard S. Levitz
Institute for Behavioral Education

Henry A. Jordan
Institute for Behavioral Education

Michael D. LeBow
University of Manitoba

Marian L. Coopersmith
Institue for Behavioral Education

In R. C. Hawkins (Chair) Maintenance of weight loss in behavioral treatment programs. Symposium presented at the meeting of the American Psychological Association, Montreal, 1980.

CG 014822

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Michael D. LeBow

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Weight Loss Five Years After Behavioral Treatment

I have set two goals for this presentation. The first is to discuss data from a study done by Len Levitz, Henry Jordan, Marion Cooper-Smith and myself on the long term maintenance results of Jordan and Levitz' work with obese clients and the second is to discuss some findings with obese families treated at the Manitoba Obesity Control Centre, which I am affiliated with.

Let's get on with the first objective. While on sabbatical from the University of Manitoba, I helped complete a study of 190 patients who had undergone the behaviorally based weight control program run by Levitz and Jordan[1] first at the hospital of the University of Pennsylvania and later at the Institute for Behavioral Education. These 190 people, most of whom are women had lost at least 15 pounds and had (after undergoing three weeks of diagnostic evaluation) attended at least 13 out of 17 remaining weekly sessions of a multi-component behavioral program. The program is tailored to patients needs and comprises procedures, such as stimulus control, cognitive restructuring, nutrition education, and more.

The 190 people we evaluated were drawn from a pool of 326 who had completed treatment.

The question we asked is how many of these 190 people were able to maintain

the clinically meaningful weight losses they achieved during treatment. Some of these people had finished treatment a year before we began the study and others had finished anywhere from two years to five years before. So, the maintenance period we were interested in looking at ranged from one to five years.

Method

Our first task in doing this study was locating these 190 people. We were fairly successful in this venture. Actually, we failed in finding only 31 - - these people could not be traced. Five others simply did not want to co-operate. (A couple of them were pretty nasty about it.) So, after finishing the locating step our sample was reduced to 154, which is 81% of what we started with.

Of these 154 clients, 116 were women and 38 were men. The average age of the women was 39 years and their average starting weight was 208 lbs. During treatment these women lost a mean of about 25 pounds. The average age of the men was approximately 42 years and their mean weight was 238 pounds; and their average loss over treatment was slightly more than 31 pounds. So, the men started out heavier and lost the most weight.

We interviewed each of these people by telephone and asked 54 of them to come into the Institute, so that we could weigh them in person. By checking

their reports on the phone with their actual weights, we were able to correct all the reported weights by adding a constant of 2.25 pounds to each of them. That is, we figured that the telephone weights were underestimates by about 2¼ pounds. After doing all of this we then looked at the percentage of each person's initial treatment loss that was retained at follow-up. Also, because this measure says nothing about continued weight loss or regain beyond starting weight, we looked at weight-change from the beginning of treatment.

Findings

I'll just list the major findings. If you are interested in other ones, please write to either Drs. Jordan, Levitz or me. Looking at percent of maintenance, we found:

(a) The average amount of weight loss maintained was 58.4%. That is, more than half the post-treatment loss was kept on the average over all the years of follow-up for all the patients in the sample.

(b) Thirty percent of the patients, 46 people, maintained perfectly or continued to lose. Twenty-five lost 10 or more extra pounds, and nine other patients reduced from 5 to 10 additional pounds. And the number of patients losing 40 or more pounds by treatments-end, 19 people, increased to 25.

(c) On the negative side, eighteen percent of the patients regained everything. These 27 patients, then, were failures. Ten of them actually were over 10 lbs. heavier when the project was over than when it started.

As I'm sure most of you know the weight changes in behavioral treatment programs are quite variable. Some people lose substantially, and some do not, and some in fact gain. The variability during maintenance, a less discussed issue than the variability during treatment, was also pronounced in this study. However, the variability during maintenance bore little relationship to the time of evaluation. That is to say, those who were out of treatment one year or two years did not post better results than those who were out of treatment three, four or five years.

The next set of findings deals with this year by year breakdown.

(Present Slide 1)

The question is how many patients kept off at least 15 lbs. at the time they were evaluated.

A. At Year one, 65% of those evaluated (15 out of 23) managed this feat.

B. At two years, the percentage drops to 48% (23 out of 47).

C. At three years, our data show that 55% (23 out of 42) were able to keep off 15 or more pounds.

D. At four years, about the same proportion of clients, 56% (10 out of 18) were able to do so.

E. Finally, at five years, 50% (12 out of 24) kept off the 15 lbs or more figure.

Overall, 54% of the people evaluated retained at least a 15 pound weight loss one to five years later. The average reductions of these patients increased from just under 33 pounds at the end of treatment to almost 36 pounds at follow-up. The 46% who did not retain the 15 pound reduction had a post-treatment loss of almost 24 pounds diminish to about 6/10th of a pound at follow-up. Perhaps better losers, are better maintainers.

In addition to tabulating the weight-change progress of these people we also surveyed their diagnostic profiles and evaluated the answers they gave on our interview questionnaire. What we wanted to do was find demographic factors and behavioral practices associated with both good and bad maintenance. I'll list the main results of this search.

a. Sex of patient was not a factor associated with maintenance of a 15 pound or better loss. In other words, equal percentages of men and women were able to achieve this goal.

b. Similarly, considering the entire pool of patients, age of onset was not discriminative. That is, equal percentages of childhood-onset and adult onset obese patients maintained the 15 pound or better loss. But when we looked at the extremes, that is when we looked at those who lost 10 additional pounds over follow-up in comparison to whose who gained 10 additional pounds above their starting weights, we found that age of onset did seem to make a difference. Briefly, 60% of the patients who continued to lose 10 or more pounds first became obese as adults whereas 60% of those regaining all their losses plus 10 or more pounds first became obese during childhood. Length of time obese was not evaluated in this inquiry.

Similarly, while there were no overall predictors of weight maintenance, some interesting differences were observed when the extremes of weight change distribution were again compared. When patients who maintained all their initial weight loss were compared to patients who maintained none of their initial weight loss, we found that

c. 83% of the maintainers weighed themselves daily or weekly, whereas only 5% of the non-maintainers said they did.

d. 43% of the maintainers occasionally kept records of their food intake, whereas only 5% of the non-maintainers said they did.

e. Finally, 88% of the maintainers reported daily or weekly exercise but only 18% of the non-maintainers were active.

There were no differences in the reports of these patients about frequency of eating after dinner or about frequency of eating while watching television. Likewise, there were no differences between these groups of patients in any reports about changes in marital status, occupation, or health during the follow-up period. So, in brief, the questionnaire data suggest that the more triumphant patients were the more cautious during the follow-up interval. They tended to check their weights, monitor their intakes and exercise more often after treatment than their less successful colleagues. But they did not eat any less frequently following the evening meal or undergo any more remarkable life changes. In summary, the main thing this study seems to show is that behavioral treatment can be of some long term service to many overweight individuals. It is certainly valuable enough to be included among the armaments of the obesity therapist. But we can say very little as yet with any degree of confidence about why some patients progress very well, while some fare moderately well and why some fail. We know very little about the treatment by patient interaction.

I wish now to try and achieve my second goal of this paper and that is to present some of the Manitoba Obesity Control Centre findings on obese families. These are families where at least two members are 20% or more overweight. Each of the families I'll show you slides of momentarily began our program at different times, so unfortunately they do not represent a cohort of individuals who were treated in the same fashion at the same time. Some families received behavioral treatments, such as positive reinforcement and stimulus control, and so forth, whereas other families received different constellations of treatment.

Type of care dependent on assessment. In other words, there had to appear to be a need for particular intervention before it was tried. And this need could arise anytime during treatment. In brief, assessment was ongoing, and it and intervention occurred in close succession. To obtain information upon which to base treatment we (George Kaoukis, John Pearce & I) assigned each family the task of living-up to calorie-intake and later on calorie-outgo plans - - these are plans that family members create for themselves. The question we asked was, "Why is following a weight loss plan so difficult?" "What obstacles arise to thwart the potential weight-loser's efforts to reduce?" Actually, this is something like the question physicians and other health professionals have been asking their overweight patients for years. But instead of considering

failure to be an example of moral weakness (lack of willpower), we looked at the reasons, the behavioral reasons, patients violate weight-loss plans and what could be done to eradicate these reasons. I should say that some of these reasons caused recurring actions that inhibited weight losses or were behind cumulatively destructive actions, actions that when considered separately occur relatively infrequently but when considered together have the same effect on the body of either generating calories for storage as fat or preventing their dissipation.

Method

The treatment phase of this program lasted about four months. For eight of the weeks, following baseline, families had to plan meals in terms of foods to be eaten, quantities, preparations, and calories. To promote weight losses, daily calorie allotments were stipulated in advance. For the adults they were usually 7 calories per pound. Children were on much more ample regimens. Each member's meal plans could not exceed his or her calorie quota for the day. Calorie slush-funds were often allowed, whereby a specific amount of calories from the allotment was set aside for unplanned eating episodes.

As I said, the meal plans were constructed by the families themselves. They worked together on them usually devising them on the day or the day before

consuming the meals. The task before each family member was living up to the plan. Parents and children helped each other do so. When plans were violated, families were to note when the violation occurred, the calories acquired from it, and the reasons behind its occurrence. We suggested 13 reasons, we called deviation-themes, for families to explore. (I'll be happy to send you a list of these themes and forms we used for finding them.) Again, let me stress that only after we uncovered, or rather the families uncovered, sources of deviating did we advise behavioral remedies to prevent them from arising again.

After the eight weeks of meal planning, meal recording, and deviation-finding, we applied the same basic strategy to activity. That is, we had eight weeks of activity planning, activity recording and activity deviation-finding, there were 5 deviation-themes suggested during this phase.

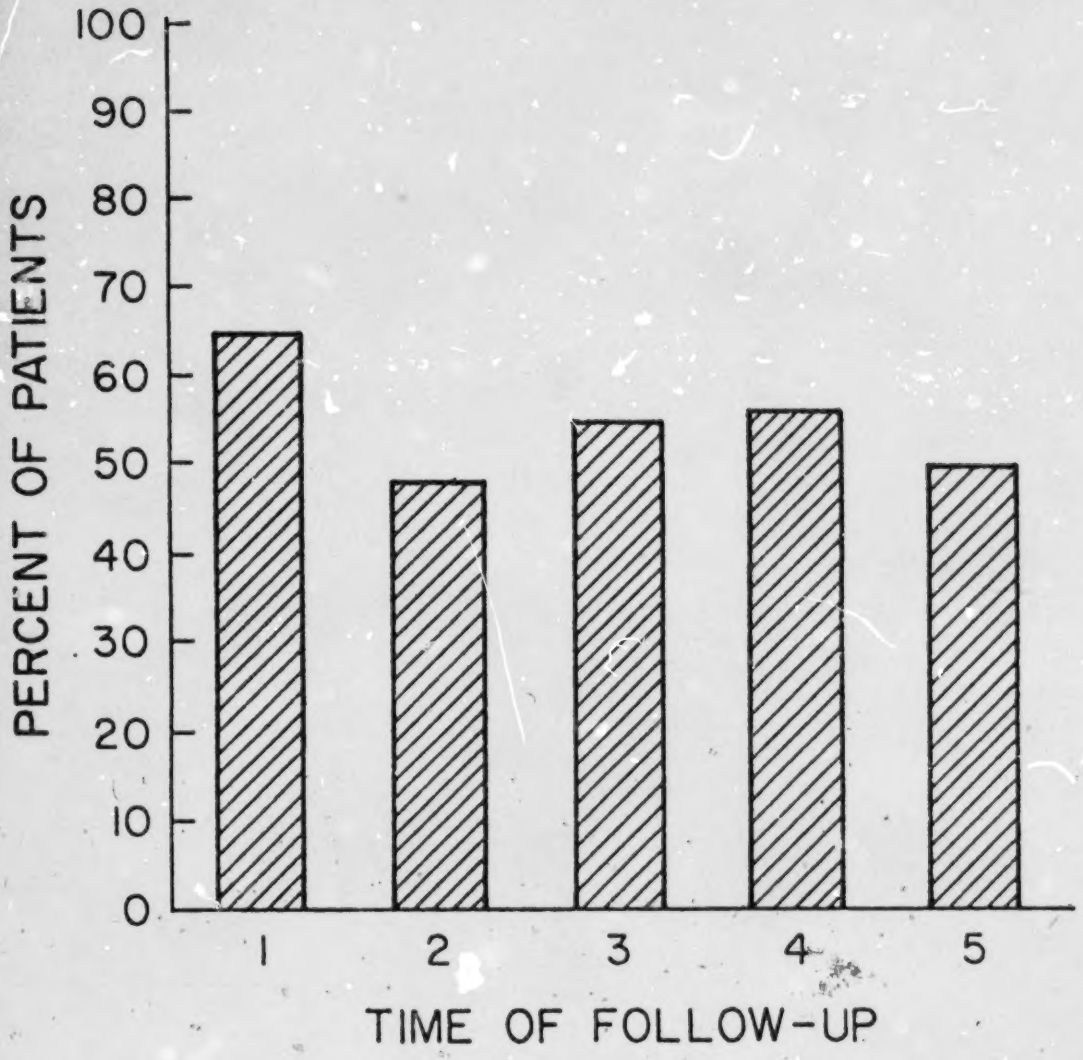
The activities we were concerned with were informal ones, such as climbing stairs instead of taking elevators and recreations, such as swimming, bowling, tennis or family walks. Let's look at what happened.

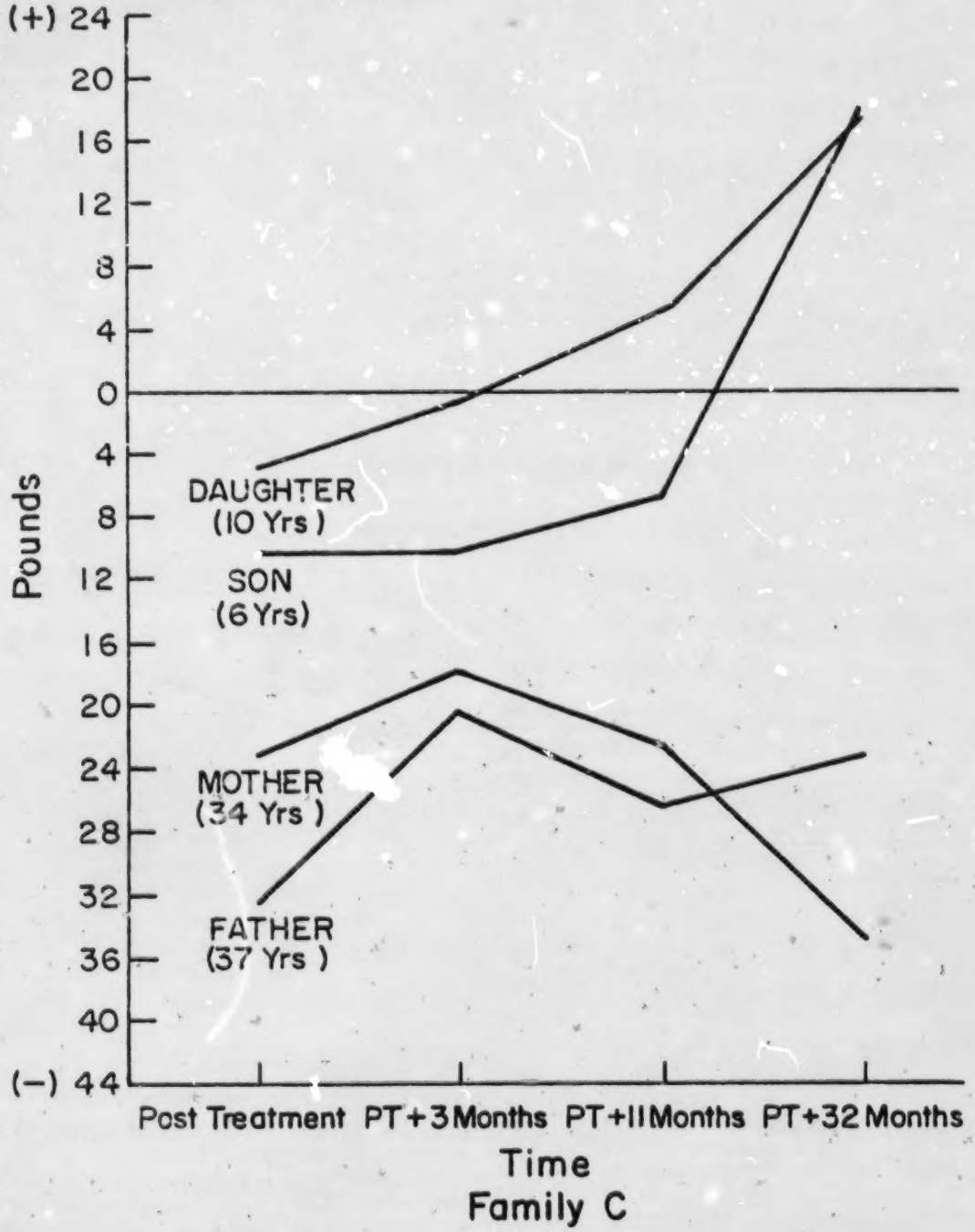
(Slides of graphs appended will be presented and outcomes discussed.)

From what has been presented and from my experience in applying this method to various individuals, I, as do others, feel that an appropriate line of inquiry asks why so many patients are unable to adhere to their own weight-loss plans and

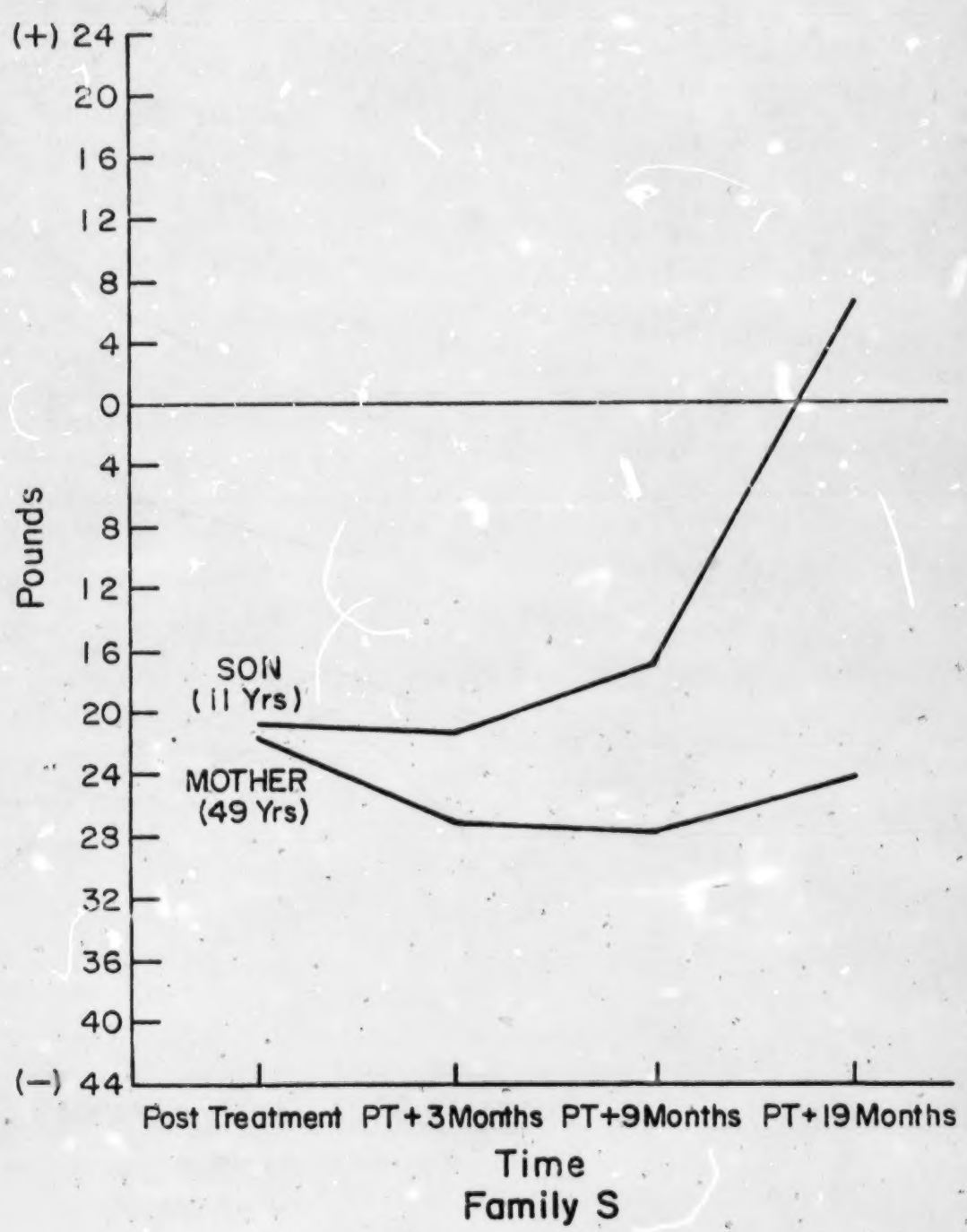
relatedly why they have difficulty reapplying the planning program effectively during the maintenance interval. Currently, a research program is underway that deals with this issue. Also, the study I have just mentioned is looking at deviations during baseline in order to better understand program effects and the impact of changes in this behavior on weight and fat differences during treatment.

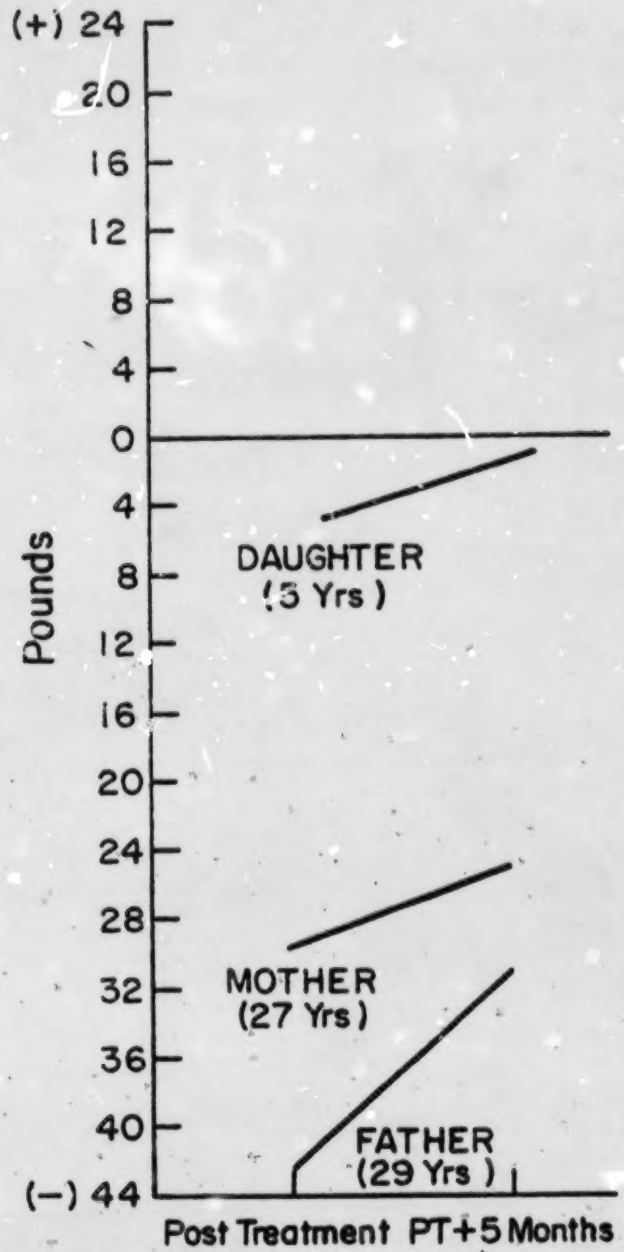
But I can say little about who good maintainers are likely to be or what can be done to augment this population other than teaching patients the potential value of reinstituting effective techniques when relapses appear imminent and periodically monitoring their actions in this regard.

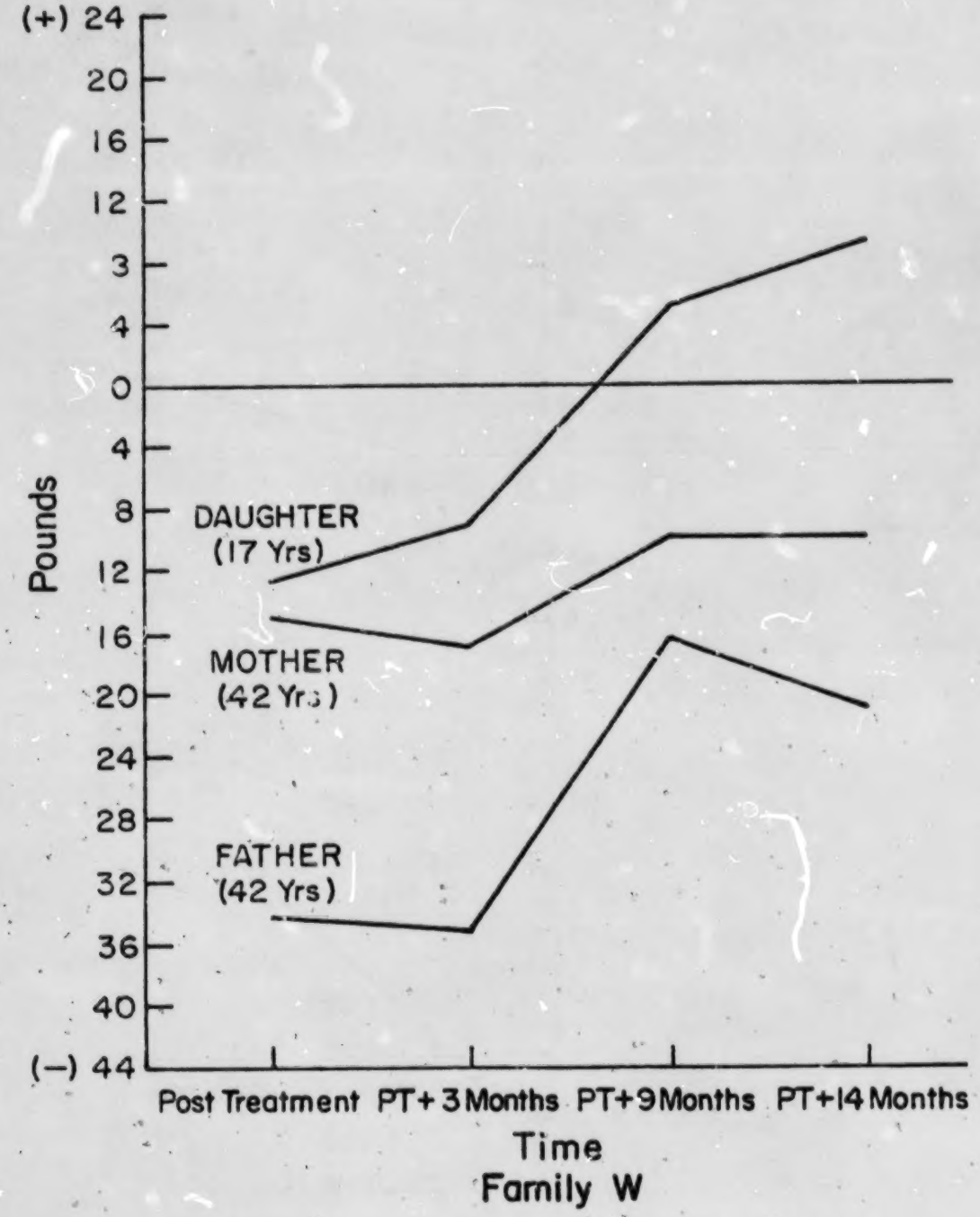

100
90
80
70
60
50
40
30
20
10
0
PERCENT OF PATIENTS
1
2
3
4
5
TIME OF FOLLOW-UP


(+) 24
20
16
12
8
4
0
4
8
12
16
20
24
28
32
36
40
(−) 44
Pounds
DAUGHTER
(10 Yrs)
SON
(6 Yrs)
MOTHER
(34 Yrs)
FATHER
(37 Yrs)
Post Treatment
PT+3 Months
PT+11 Months
PT+32 Months
Time

Family C


(+) 24
20
16
12
8
4
0
4
8
12
16
20
24
28
32
36
40
(−) 44
Pounds
SON
(11 Yrs)
MOTHER
(49 Yrs)
Post Treatment
PT+3Months
PT+9Months
PT+19Months
Time
Family S


(+) 24
20
16
12
8
4
0
4
8
12
16
20
24
28
32
36
40
(−) 44
Pounds
DAUGHTER
(3 Yrs)
MOTHER
(27 Yrs)
FATHER
(29 Yrs)
Post Treatment PT+5 Months
Time
Family R


(+) 24
20
16
12
3
4
0
4
8
12
16
20
24
28
32
36
40
(−) 44
Pounds
DAUGHTER
(17 Yrs)
MOTHER
(42 Yrs)
FATHER
(42 Yrs)
Post Treatment
PT+3 Months
PT+9 Months
PT+14 Months
Time

Family W